CLAIMS

What is claimed is:

1. A dishwasher comprising:

a heating element having a resistance adapted to change in response to the water temperature in the dishwasher; and

a data processing unit coupled to the heating element operative to measure the resistance of the heating element and determine the water temperature in the dishwasher using the resistance measurement.

2. The dishwasher of claim 1, further comprising a control panel for providing a plurality of wash cycles.

3. The dishwasher of claim 2, wherein the selection of at least one of the pluarlity of wash cycles sets a target resistance for the heating element and a desired water temperature for the dishwasher.

4. The dishwasher of claim 3, wherein the target resistance corresponds to the desired water temperature for the selected wash cycle and is selected from a plurality of pre-stored data including a plurality of target resistances that correspond to a plurality of water temperatures.

5. The dishwasher of claim 3, wherein the data processing unit is operative to control the heating element to reach the target resistance.

6. The dishwasher of Claim 3, wherein the data processing unit is operative to calculate a period of time for energizing the heating element to reach the target resistance.

7. The dishwasher of Claim 6, further comprising a timer in connection with the data processing unit for energizing the heating element for the calculated period of time.

8. The dishwasher of Claim 1, further comprising a water valve coupled to a water supply for providing water to the dishwasher.

9. The dishwasher of Claim 8, wherein the data processing unit is operative to control the water valve to open and close.

10. The dishwasher of Claim 1, wherein the heating element has a positive temperature coefficient characteristic.

11. A dishwasher comprising:

a heating element operative to change in resistance in response to the water temperature in the dishwasher;

a processing system coupled to the heating element, the system is operative to measure the resistance of the heating element and determine the water temperature in the dishwasher using the resistance measurement;

a control panel coupled to the processing system, the control panel is operative to set a target resistance and a desire water temperature;

a water supply operative to provide water to the dishwasher;

a valve device coupled to the water supply, the valve device is operative to open and close the supply of water flowing in the dishwasher from the water supply; and

a timer coupled to the processing system, the timer is operative to control the function of the heating element.

12. The dishwasher of claim 11, wherein the control panel includes a plurality of wash cycles where the selection of at least one of the plurality of wash cycles sets the target resistance and the desired water temperature.

13. The dishwasher of claim 11, wherein the processing system along with the timer is operative to calculate a length of time for energizing the heating element to reach the target resistance and the desired water temperature.

14. The dishwasher of claim 11, wherein the target resistance corresponds to the desired water temperature.

15. The dishwasher of claim 11, wherein the resistance of the heating element corresponds to the water temperature in the dishwasher.

16. The dishwasher of claim 11, wherein the heating element has a positive temperature coefficient characteristic.

17. A method for controlling the water temperature in a dishwasher comprising:

providing a heating element having a resistance adapted to change in response to the water temperature in the dishwasher;

filling the dishwasher to a desired water level;

measuring the resistance of the heating element; and

determining the water temperature in the dishwasher based on the resistance of the heating element, wherein the resistance of the heating element corresponds to the water temperature.

18. The method of Claim 17, further comprising:

setting a target resistance that corresponds to the desired water temperature from a plurality of pre-stored data that includes a plurality of target resistances that correspond to a plurality of water temperatures;

calculating a period of time for energizing the heating element to the target resistance; and

energizing the heating element to reach the target resistance.

19. The method of Claim 18, further comprising:

comparing the resistance of the heating element to the target resistance; and

determining if the resistance of the heating element has reached the target resistance.

20. The method of Claim 18, further comprising selecting at least one of a plurality of washing cycles, wherein selecting the at least one of the plurality of washing cycles sets the target resistance and the desired water temperature.

21. The method of Claim 17, further comprising providing the heating element with a positive temperature coefficient characteristic.

22. A method for controlling the water temperature in a dishwasher comprising:

providing a heating element having a resistance adapted to change in response to the water temperature in the dishwasher;

selecting a target resistance from a plurality of pre-stored data;

filling the dishwasher to a desired water level;

measuring the resistance of the heating element in the dishwasher; and

energizing the heating element to reach the target resistance, wherein the resistance of the heating element corresponds to the water temperature in the dishwasher.

23. The method of Claim 22, further comprising selecting at least one of a plurality of wash cycles that sets the target resistance.

24. The method of Claim 23, further comprising having the target resistance correspond to the desired water temperature for the selected wash cycle.

25. The method of Claim 22, further comprising:

computing a length of time for energizing the heating element to reach the target resistance;

energizing the heating element for the period of time to reach the target resistance;

comparing the resistance of the heating element to the target resistance; and

determining if the resistance of the heating element has reached the target resistance.

26. The method of Claim 22, further comprising providing the heating element with a positive temperature coefficient characteristic.

27. A method for controlling the water temperature of a dishwasher comprising:

providing a heating element having a resistance adapted to change in response to the water temperature in the dishwasher;

selecting at least one of a pluarlity of washing cycles;

setting a target resistance for the heating element;

calculating a length of time for energizing the heating element to reach the target resistance; and

energizing the heating element for the calculated length of time to reach the target resistance, wherein the target resistance corresponds to a desired water temperature for the selected washing cycle.

28. The method of Claim 27, further comprising:

comparing the resistance of the heating element to the target resistance; and

determining if the resistance of the heating element has reached the target resistance.

29. The method of Claim 27, further comprising providing the heating element with a positive temperature coefficient characteristic.